

AMENDMENTS TO THE CLAIMS

A detailed listing of all claims that are, or were, in the present application, irrespective of whether the claim(s) remains under examination in the application are presented below. The claims are presented in ascending order and each includes one status identifier. Those claims not cancelled or withdrawn but amended by the current amendment utilize the following notations for amendment: 1. deleted matter is shown by strikethrough; and 2. added matter is shown by underlining.

1-10. (Cancelled)

11. (Currently Amended) The device according to claim [[10]] 22, wherein the mesh sleeve comprises an openwork steel cylinder including diamond-shaped cutouts, the transfixion pins being attached to the cylinder at each end at a plurality of intersections of sides of the diamond-shaped cutouts.
12. (Currently Amended) The device according to claim [[10]] 22, wherein an intermediate portion of the sleeve also comprises a plurality of intermediate transfixion pins.
13. (Currently Amended) The device according to claim [[10]] 22, wherein, in expansion during fixation, a ratio of a final diameter of the sleeve to an initial diameter of the sleeve is greater than 2.
14. (Previously Presented) The device according to claim 12, wherein the series of transfixion pins on each end of the sleeve are straight, and wherein the intermediate transfixion pins are slightly curved and have points oriented toward one end or another end of the sleeve or randomly in any other direction.
15. (Previously Presented) The device according to claim 14, wherein the intermediate transfixion pins have an end portion inclined at an angle of between 0 degrees and 10 degrees.

16. (Previously Presented) The device according to claim 12, wherein the transfixion pins of the ends of the sleeve are of a reduced height in relation to a height of the intermediate transfixion pins.

17-18. (Cancelled)

19. (Previously Presented) The device according to claim 11, wherein the transfixion pins are attached to the cylinder by soldering.

20. (Previously Presented) The device according to claim 11, wherein the transfixion pins are attached to the cylinder by gluing.

21. (Previously Presented) The device according to claim 15, wherein the end portion of the intermediate transfixion pins is inclined at an angle of about 5 degrees.

Please add new claims 22-25 as follows:

22. (New) A connecting device for connecting a body duct and a prosthesis at a first end of the prosthesis intubated in the body duct, the prosthesis having an essentially tubular shape, the connecting device comprising:

a tubular mesh sleeve adapted to be positioned within an interior of the prosthesis proximate the first end of the prosthesis, the mesh sleeve presenting opposing sleeve ends, the mesh sleeve being capable of radial expansion between a first stable minimal-

diameter configuration and a second after-expansion configuration that is also stable, the mesh sleeve including:

a plurality of transfixion pins positioned at substantially regular intervals about a circumference of the mesh sleeve proximate each sleeve end, each of the transfixion pins having a pin length sufficient to pass entirely through a wall of the body duct and each of the transfixion pins being adapted to transfix a portion of the body duct and the prosthesis surrounding the mesh sleeve upon radial expansion of the mesh sleeve to the second stable configuration, wherein each of the transfixion pins have at least a bottom portion extending longitudinally in an outward and substantially perpendicular direction from an external surface of the mesh sleeve, and wherein each of the transfixion pins have a hemostatic profile comprising a circular base section extending to a trihedral-shaped end portion whereby hemostasis is achieved at transfixion sites formed by the transfixion pins in the wall of the body duct upon radial expansion of the mesh sleeve to the second stable configuration.

23. (New) A grafting system including a connecting device for connecting a body duct and a prosthesis at a first end of the prosthesis intubated in the body duct, the grafting system comprising:

a body duct;

a prosthesis having an essentially tubular shape, wherein a first end of the prosthesis is positioned within the body duct by intubation;

a connecting device positioned within an interior of the prosthesis proximate the first end of the prosthesis, the connecting device comprising a tubular mesh sleeve presenting opposing sleeve ends, a tubular mesh sleeve adapted to be positioned within an interior of the prosthesis proximate the first end of the prosthesis, the mesh sleeve presenting opposing sleeve ends, the mesh sleeve being capable of radial expansion between a first stable minimal-diameter configuration and a second after-expansion configuration that is also stable, the mesh sleeve including:

a plurality of transfixion pins positioned at substantially regular intervals about a circumference of the mesh sleeve proximate each sleeve end, each of the transfixion pins having a pin length sufficient to pass entirely through a wall of the body duct and each of the transfixion pins being adapted to transfix a portion of the body duct and the prosthesis surrounding the mesh sleeve upon radial expansion of the mesh sleeve to the second stable configuration, wherein each of the transfixion pins have at least a bottom portion extending longitudinally in an outward and substantially perpendicular direction from an external surface of the mesh sleeve, and wherein each of the transfixion pins have a hemostatic profile comprising a circular base section extending to a trihedral-shaped end portion whereby hemostasis is achieved at transfixion sites formed by the transfixion pins in the wall of the body duct upon radial expansion of the mesh sleeve to the second stable configuration.

24. (New) A connecting device adapted for end-to-end anastomosis of at least two body ducts through an intermediary prosthesis having at least two ends, each end being intubated in one of the at least two body ducts, the connecting device comprising:

a sleeve positioned within an interior of the prosthesis proximate each end of the prosthesis intubated in a duct end, the sleeve presenting opposing sleeve ends, the sleeve comprising:

a mesh cylinder capable of radial expansion between a first stable minimal-diameter configuration and a second after-expansion configuration that is also stable, and

a plurality of transfixion pins positioned at substantially regular intervals about a circumference of the mesh cylinder proximate each sleeve end, each of the transfixion pins having a pin length sufficient to pass entirely through a wall of the body duct and each of the transfixion pins being adapted to transfix a portion of the body duct and the prosthesis surrounding the mesh cylinder upon radial expansion of the mesh cylinder to the second stable configuration, wherein each of the transfixion pins have at least a bottom portion extending longitudinally in an outward and substantially perpendicular direction from an external surface of the mesh cylinder, and wherein each of the transfixion pins have a hemostatic profile comprising a circular base section extending to a trihedral-shaped end portion whereby hemostasis is achieved at transfixion sites formed by the transfixion pins in the wall of the body duct upon radial expansion of the mesh cylinder to the second stable configuration.

25. (New) A method for positioning connecting devices adapted for end-to-end anastomosis of at least two body ducts through an intermediary prosthesis having at least two ends, each end being intubated in one of the at least two body ducts, the method comprising:

intubating a first end of the prosthesis in a first body duct;

securing the first end of the prosthesis to the first body duct by a first connecting device, the first connecting device and an inflatable balloon catheter being introduced into an interior of the prosthesis through a second end of the prosthesis, the first connecting device comprising:

a mesh sleeve capable of radial expansion between a first stable minimal-diameter configuration and a second after-expansion configuration that is also stable, and

a plurality of transfixion pins positioned at substantially regular intervals about a circumference of the mesh sleeve proximate each sleeve end, each of the transfixion pins having a pin length sufficient to pass entirely through a wall of the body duct and each of the transfixion pins being adapted to transfix a portion of the body duct and the prosthesis surrounding the mesh sleeve upon radial expansion of the mesh sleeve to the second stable configuration, wherein each of the transfixion pins have at least a bottom portion extending longitudinally in an outward and substantially perpendicular direction from an external surface of the mesh sleeve, and wherein each of the transfixion pins have a hemostatic profile comprising a circular base section extending to a trihedral-shaped end portion

whereby hemostasis is achieved at transfixion sites formed by the transfixion pins in the wall of the body duct upon radial expansion of the mesh sleeve to the second stable configuration; intubating a second end of the prosthesis in a second body duct; and securing a second connecting device, by a catheter introduced into the interior of the prosthesis through an orifice formed in a wall of the prosthesis that is subsequently re-closed, the second connecting device being substantially identical to the first connecting device.